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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,931	10/27/2003	Bernard Arambepola	042390.P23887	5079

8791 7590 01/17/2007
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EXAMINER

ETTEHADIEH, ASLAN

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/694,931

Applicant(s)

ARAMBEPOLA ET AL.

Examiner

Aslan Ettehadieh

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/3/04 10/27/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because figure 1 (03/10/2006) is not clear how the outputs of elements 16 and 17 are connected to element 28. Also, figure 1 (03/10/2006) is not clear because it does not show the connection of element 21 as it previously did in figure 1 (10/27/2003). Finally, the drawings are objected to under 37 CFR 1.83(a) because they fail to show all the connections (arrows/path directions) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1 – 30 are rejected under 35 U.S.C. 101 because claims 1 – 30 does not cover a § 101 Judicial Exception, or a practical application of § 101 Judicial exception wherein claims 1 – 30 lacks a practical application that produces a useful, tangible, and concrete result whereas the claims are solely in manipulating a signal. The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” See Diehr, 450 U.S. at 191, 209 USPQ at 10; Benson, 409 U.S. at 71-72, 175 USPQ at 676; State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02, Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 (1966); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir.

2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 4, 7, 21 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowley et al. (US 2002/0075971) in view of Kurisu (US 6172543).
6. Regarding claim 1, Cowley discloses a digital receiver comprising: a tuner for converting a selected channel to a baseband channel signal (figure 1, paragraphs 16 – 18); an adjustable low pass filtering arrangement for filtering said baseband signal (figure 1, paragraph 18); a first measuring arrangement for measuring a value as a function of at least one baseband signal component of said baseband signal whose frequency is adjacent an edge of said baseband channel and second baseband signal component of said baseband signal whose frequency is further from said edge of said baseband channel than a frequency of said at least one first baseband signal component (figure 1 paragraphs 21 – 23; where generally equal is being interpreted as having cut-off frequencies different than each other at some time); and a controller for adjusting a passband of said low pass filtering arrangement (figure 1, paragraphs 21 – 23). Cowley is not specific about measuring a first value as a first function of a signal

level and measuring a second value as a second function of a signal level; and also said first and second values have a predetermined relationship

In the same field of endeavor, however, Kurisu discloses measuring a first value as a first function of a signal level and measuring a second value as a second function of a signal level; and also said first and second values have a predetermined relationship (figures 2, 3, 4, 5, col. 2 lines 48 – col. 3 lines 20).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use measuring a first value as a first function of a signal level and measuring a second value as a second function of a signal level; and also said first and second values have a predetermined relationship as taught by Kurisu in the system of Cowley to provide a higher level of accuracy in reducing errors (col. 1 lines 65 – 67).

7. Regarding claim 2, Cowley further discloses said filtering arrangement is an analog filtering arrangement (paragraph 22).

8. Regarding claim 3, Cowley further discloses comprising an analog-digital conversion arrangement between said filtering arrangement and said first measuring arrangement (paragraph 22).

9. Regarding claim 4, Cowley further discloses said tuner is a single conversion zero intermediate frequency tuner (abstract, paragraphs 3, 4, 7, 12, 16 – 21).

10. Regarding claim 7, Cowley further discloses a demodulator including said first measuring arrangement (figure 1 element 12).

11. Regarding claim 21, Kurisu further discloses said predetermined relationship is that said first and second levels are substantially equal to each other (figures 2, 3, 4, 5, col. 2 lines 48 – col. 3 lines 20).
12. Regarding claim 22, Cowley further discloses said baseband channel signal comprises in-phase and quadrature components (paragraph 19, figure 1).
13. Regarding claim 23, Cowley further discloses said filtering arrangement comprises first and second adjustable low pass filters for said in-phase and quadrature components, respectively (paragraph 19, figure 1).
14. Claims 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowley et al. (US 2002/0075971) in view of Kurisu (US 6172543) in further view of Bly et al. (US 5715281).
15. Regarding claims 5 and 6, Cowley does not disclose controller is arranged initially to adjust said filtering arrangement to have a smaller passband than a bandwidth of said baseband channel and controller is arranged to increment said passband of said filtering arrangement until said predetermined relationship exists.

In the same field of endeavor, however, Bly discloses controller is arranged initially to adjust said filtering arrangement to have a smaller passband than a bandwidth of said baseband channel and controller is arranged to increment said passband of said filtering arrangement until said predetermined relationship exists (figure 1, col. 2 line 42 – col. 4 line 24).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use controller is arranged initially to adjust said filtering

arrangement to have a smaller passband than a bandwidth of said baseband channel and controller is arranged to increment said passband of said filtering arrangement until said predetermined relationship exists as taught by Bly in the system of Cowley to reduce effects of DC offset (col. 1 lines 58 – 59).

16. Claims 8 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowley et al. (US 2002/0075971) in view of Kurisu (US 6172543) in further view of Husted (US 20030206603).

17. Regarding claims 8 – 10, Cowley does not disclose first measuring arrangement is arranged to perform a fast Fourier transform (FFT).

In the same field of endeavor, however, Husted discloses first measuring arrangement is arranged to perform a fast Fourier transform (paragraphs 24, 35, 36, 41, 43 – 45, 48, 50 – 53; where it is well known that a discrete Fourier transform (DFT) which is a finite Fourier transform, wherein a DFT is computed in practice using the FFT and therefor the use of an FFT is being interpreted as having the option to use a DFT with the benefit of less complexity).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use first measuring arrangement is arranged to perform a fast Fourier transform as taught by Husted in the system of Cowley to accurately determine frequencies of interest (paragraph 41).

18. Regarding claim 11, Cowley does not disclose said selected channel is orthogonal frequency division multiplexed.

In the same field of endeavor, however, Husted discloses said selected channel is orthogonal frequency division multiplexed (paragraphs 23 – 26).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use said selected channel is orthogonal frequency division multiplexed as taught by Husted in the system of Cowley to provide more diversity.

19. Claims 12, 14 – 15, 16 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowley et al. (US 2002/0075971) in view of Kurisu (US 6172543) in view of Husted (US 20030206603) in further view of Katayama (US 6356746).

20. Regarding claims 12, 14 – 15, 16 – 20, Cowley does not disclose said first value is measured as an average of levels of a first plurality of carriers whose frequencies are adjacent said edge of said baseband channel and second value is measured as an average of levels of a second plurality of carriers, and which said second plurality of carriers comprises all carriers and which said second plurality of carriers comprises all carriers except those of said first plurality, and said average is formed over a plurality of symbols, said symbols are consecutive symbols.

In the same field of endeavor, however, Katayama discloses said first value is measured as an average of levels of a first plurality of carriers whose frequencies are adjacent said edge of said baseband channel and second value is measured as an average of levels of a second plurality of carriers, and which said second plurality of carriers comprises all carriers and which said second plurality of carriers comprises all carriers except those of said first plurality (col. 9 line 65 – col. 10 line 54, figures 3 – 5) and said average is formed over a plurality of symbols, said symbols are consecutive

Art Unit: 2611

symbols (col. 9 line 65 – col. 10 line 54, figures 3 – 5; where it would be obvious to do mathematic operations including said average is formed over a plurality of symbols, said symbols are consecutive symbols for proper processing)

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use said first value is measured as an average of levels of a first plurality of carriers whose frequencies are adjacent said edge of said baseband channel and second value is measured as an average of levels of a second plurality of carriers, and which said second plurality of carriers comprises all carriers and which said second plurality of carriers comprises all carriers except those of said first plurality, and said average is formed over a plurality of symbols, said symbols are consecutive symbols as taught by Katayama in the system of Cowley to reduce the influence of adjacent waves (col. 3 line 24).

21. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cowley et al. (US 2002/0075971) in view of Kurisu (US 6172543) in further view of Katayama (US 6356746).

22. Regarding claim 24, Cowley discloses said controller being arranged to adjust at least one of said first and second filters so that said in-phase and quadrature components after filtering have substantially a same level (paragraph 21). Cowley does not disclose a second measuring arrangement for measuring levels of said in-phase and quadrature components after filtering by said first and second filters.

In the same field of endeavor, however, Katayama discloses a second measuring arrangement for measuring levels of said in-phase and quadrature components after filtering by said first and second filters (col. 9 line 65 – col. 10 line 54, figures 3 – 5).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use a second measuring arrangement for measuring levels of said in-phase and quadrature components after filtering by said first and second filters as taught by Katayama in the system of Cowley to reduce the influence of adjacent waves (col. 3 line 24).

23. Claims 25 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowley et al. (US 2002/0075971) in view of Kurisu (US 6172543) in view of Katayama (US 6356746) in further view of Husted (US 20030206603).

24. Regarding claims 25 and 26, Cowley discloses an analog-digital conversion arrangement disposed between said filtering arrangement and said first measuring arrangement and having an output (paragraph 22). Cowley does not disclose an automatic gain control arrangement responsive to said output of said analog-digital conversion arrangement for providing substantially constant average input levels to said analog-digital conversion arrangement and comprising a gain and phase compensating arrangement for compensating in-phase and quadrature components from said analog-digital conversion arrangement.

In the same field of endeavor, however, Husted discloses an automatic gain control arrangement responsive to said output of said analog-digital conversion arrangement for providing substantially constant average input levels to said analog-

digital conversion arrangement (figures 3 – 5, paragraphs 34 – 40) and comprising a gain and phase compensating arrangement for compensating in-phase and quadrature components from said analog-digital conversion arrangement (figures 3 – 5, paragraphs 3 – 4, 7, 37).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use an automatic gain control arrangement responsive to said output of said analog-digital conversion arrangement for providing substantially constant average input levels to said analog-digital conversion arrangement and comprising a gain and phase compensating arrangement for compensating in-phase and quadrature components from said analog-digital conversion arrangement as taught by Husted in the system of Cowley to adjust gain and for compensation (paragraph 34).

25. Regarding claims 27 – 28, Cowley discloses comprising first and second digital low pass filters for filtering said in-phase, and quadrature components, respectively, and compensating arrangement is responsive to the components filtered by the first and second low pass digital filters (figure 1).

Allowable Subject Matter

26. Claims 13, 29, 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other prior art cited

27. The prior art made of record and not relies upon is considered pertinent to applicant's disclosure.

28. Katayama et al. (US 20010021234) discloses a receiver that has a tunable oscillator (figure 2, elements 10, 3) and I and Q LPFs that have variable cutoff frequencies (figure 2 elements 12, 7, 8).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aslan Ettehadieh whose telephone number is (571) 272-8729. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aslan Ettehadieh
Examiner
Art Unit 2637

AE


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PRIMARY EXAMINER